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EVALUATION OF MOUNTAIN PINE BEETLE INFESTATIONS ON THE HEBGEN LAKE DISTRICT, GALLATIN NATIONAL FOREST, MONTANA

by

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An apparent increase in mountain pine beetle, Dendroctonus ponderosae Hopk., activity in lodgepole pine stands in the vicinity of West Yellowstone, Montana, in the Hebgen Lake District was reported by District personnel. An evaluation of these infestations was made October 12, 1971.

METHODS

Areas of reported infestation were examined in the following areas (Fig. 1):

1. United Campground west of West Yellowstone
2. Elk Studs Mill in West Yellowstone
3. Bakers Hole summer homesites along the Madison River

An approximate count of the number of infested trees in each area was made and the condition of beetle brood was checked in each site. In addition, stands surrounding areas of reported mountain pine beetle activity were examined to determine the approximate area of infestation.

RESULTS

UNITED CAMPGROUND.--This area consists of 80 acres of National Forest land under development for campsites by a private individual. Approximately 50 to 60 1971 attacks occur in lodgepole pines near the campground administration building. Scattered 1971 attacks occur in the campground loops. All trees attacked in the loops appeared to be suffering from root injury, skinned bark, or wounds caused by pruning during the course of construction. Fresh resinosis may have provided an attraction to those trees. No 1970 attacks occurred in this area.

ELK STUDS MILL.--Three groups of 10 to 25 1971 attacks each were detected in lodgepole pines near log decks of the Elk Studs Mill. The pine engraver, Ips pini (Say), was closely associated with the mountain pine beetle in this area and often occurred in the same trees. Pine engraver undoubtedly built up to epidemic levels in windthrow, caused by a June 1970 storm, which was prevalent in this area. Numerous single tree mountain pine beetle strip attacks were observed in trees immediately adjacent to the log decks. Four 1970 attacks were observed in this area.

BAKERS HOLE SUMMER HOMESITES.--A heavy infestation was reported to be underway in this area but only two 1971 attacks, both of which were unsuccessful, were detected in the vicinity of the summer homes. Lodgepole pines in the vicinity of these homes suffered severe wind breakage and limb mortality during the June 1970 storm. Three strip attacks were detected in large diameter lodgepole pines near the Fish and Game residence in Bakers Hole.

ADJOINING AREAS.--Lodgepole pine stands along the South Fork of the Madison River, adjacent to the United Campground, and in the city limits of West Yellowstone were also examined. New attacks were prevalent along portions of the South Fork of the Madison River and near the power substation north of West Yellowstone. Additional new attacks were detected in the city limits of West Yellowstone and near the Hebgen Lake Ranger Station.

Attacks tended to occur in trees of large diameter, 10 inches to 14 inches d.b.h. in all areas examined, and brood appeared to be in good condition in all trees successfully attacked.

DISCUSSION

Mountain pine beetle infestations appear to have increased abruptly in lodgepole pine stands on the Hebgen Lake District during 1971. The infestation may be part of the massive mountain pine beetle infestation which encompasses the Targhee and Teton National Forests, and portions of Yellowstone and Grand Teton National Parks. This infestation spread significantly to the north in Yellowstone National Park in 1970 to within 11 air miles of West Yellowstone and may have spread into the West Yellowstone area in 1971. If this is the case, no degree of direct control can prevent severe losses from occurring on the Hebgen Lake District in the future.

Surveys are planned this month (November 1971) to determine, if possible, if the West Yellowstone outbreak is just building up in place or if it is influenced by the massive Park infestation.

GALLATIN National Forest

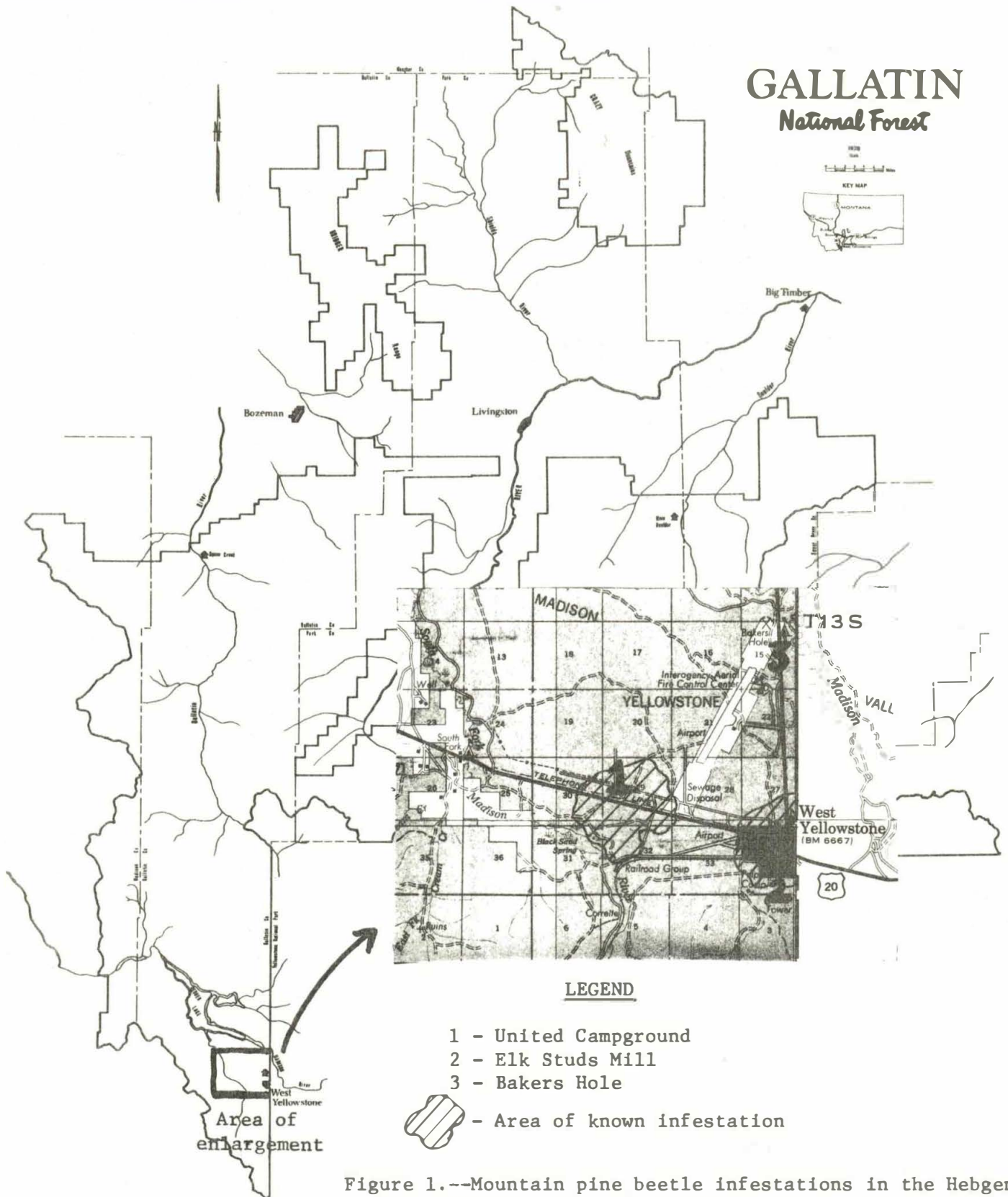
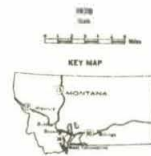


Figure 1.--Mountain pine beetle infestations in the Hebgen Lake District, Gallatin National Forest, October 1971